

**Appl. No. 10/821,558**  
**Amendment and/or Response**  
**Reply to Office action of 30 January 2006**

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**Amendments to the Claims:**

A listing of the entire set of pending claims (including amendments to the claims, if any) is submitted herewith per 37 CFR 1.121. This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

1. (Original) A simulation system comprising:
  - an event handler that is configured to determine occurrences of events,
  - a node simulator that is configured to simulate each event to determine one or more characteristics associated with the occurrence of the event,
  - a cache that is configured to store the one or more characteristics associated with the occurrence of select events,
  - and
  - a cache controller that is configured to determine whether:
    - to invoke the node simulator to determine the one or more characteristics associated with a subsequent event or
    - to retrieve the one or more characteristics associated with the subsequent event from the cache.
2. (Original) The simulation system of claim 1, wherein
  - the select events correspond to communications from a transmitter to a receiver in a wireless network.
3. (Original) The simulation system of claim 2, wherein:
  - the cache controller is further configured to:
    - determine a transmitter cluster associated with the transmitter,
    - determine a receiver cluster associated with the receiver; and
  - the cache is configured to store the one or more characteristics based on the transmitter cluster and the receiver cluster.

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4. (Original) The simulation system of claim 3, wherein  
the cache controller determines the transmitter cluster and the receiver cluster  
based upon factors associated with the event.
5. (Original) The simulation system of claim 3, wherein  
the receiver cluster is determined based upon a location of the receiver  
relative to a location of the transmitter.
6. (Original) The simulation system of claim 3, wherein  
the transmitter cluster is determined based upon an output power of the  
transmitter.
7. (Original) The simulation system of claim 1, wherein:  
each event includes factors that influence the determination of the one or more  
characteristics, and  
the cache is configured to store the one or more characteristics based on the  
factors.
8. (Original) The simulation system of claim 1, wherein:  
each event includes factors that influence the determination of the one or more  
characteristics,  
the cache controller is further configured to determine a category associated  
with the event based on the factors, and  
the cache is configured to store the one or more characteristics based on the  
category.
9. (Original) The simulation system of claim 8, wherein  
the cache controller determines the category based on a quantization of one  
or more of the factors.

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10. (Original) The simulation system of claim 8, wherein  
the cache controller determines the category based on a defined range of one  
or more of the factors.
11. (Original) A simulation method comprising:  
determining an event to be simulated; and  
if a similar event has been simulated previously:  
retrieving characteristics associated with the similar event from a cache;  
otherwise:  
simulating the event to determine characteristics associated with the  
event, and  
storing the characteristics associated with the event in the cache.
12. (Original) The simulation method of claim 11, wherein  
determining whether the similar event has been previously simulated includes:  
categorizing the event, and  
determining whether a similarly categorized event has been previously  
simulated.
13. (Original) The simulation method of claim 12, wherein  
categorizing the event includes quantizing one or more factors underlying the  
event.
14. (Original) The simulation method of claim 12, wherein  
categorizing the event includes clustering components of the event.

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15. (Original) The simulation method of claim 11, wherein  
the event corresponds to a communication from a transmitter to a receiver;  
and  
determining whether the similar event has previously been simulated includes:  
determining a transmitter cluster corresponding to the transmitter, and  
determining a receiver cluster corresponding to the receiver; and  
determining whether the characteristics are stored in the cache corresponding  
to a communication from the transmitter cluster and the receiver cluster.
16. (Original) The simulation method of claim 15, wherein  
determining the transmitter cluster and the receiver cluster is based on one or  
more factors underlying the event.
17. (Original) The simulation method of claim 15, wherein  
determining the transmitter cluster and the receiver cluster is based on one or  
more defined ranges of one or more factors underlying the event.
18. (Original) The simulation method of claim 15, wherein  
determining the transmitter cluster is based on an output power of the  
transmitter.
19. (Original) The simulation method of claim 15, wherein  
determining the receiver cluster is based on a location of the receiver relative  
to a location of the transmitter.

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20. (Amended) A computer program for execution on a computer system that causes the ~~communication computer~~ system to:

- maintain a schedule of events to be simulated;
- select an event from the schedule of events based on a simulated time;
- determine whether the event is cache-related; and,
- if the event is not cache-related:
  - simulate the event to determine characteristics related to the event;
- otherwise,
  - if the event is cache-related:
    - determine whether a similar event has previously been simulated; and
    - if the similar event has previously been simulated:
      - retrieve characteristics related to the similar event from a cache;
    - otherwise
      - simulate the event to determine characteristics related to the event, and
      - store the characteristics related to the event in the cache; and
      - schedule subsequent events based on the characteristics.

21. (Original) The computer program of claim 20, wherein the computer is further configured to

- determine whether the similar event has been previously simulated by:
  - categorizing the event, and
  - determining whether a similarly categorized event has been previously simulated.

22. (Original) The computer program of claim 21, wherein the computer is further configured to

- categorize the event by quantizing one or more factors underlying the event.

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23. (Original) The computer program of claim 21, wherein the computer is further configured to

categorize the event by clustering components of the event.

24. (Original) The computer program of claim 20, wherein:

the event corresponds to a communication from a transmitter to a receiver;

and

the computer is further configured to:

determine whether the similar event has previously been simulated by:

determining a transmitter cluster corresponding to the

transmitter, and

determining a receiver cluster corresponding to the receiver; and

determine whether the characteristics are stored in the cache

corresponding to a communication from the transmitter cluster and the receiver cluster.

25. (Original) The computer program of claim 24, wherein the computer is further configured to

determine the transmitter cluster and the receiver cluster based on one or more factors underlying the event.

26. (Original) The computer program of claim 24, wherein the computer is further configured to

determine the transmitter cluster based on an output power of the transmitter.

27. (Original) The computer program of claim 24, wherein the computer is further configured to

determine the receiver cluster based on a location of the receiver relative to a location of the transmitter.